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Mar 25, 2003

DOCUMENT-IDENTIFIER: US 6539384 B1

TITLE: Browser on test equipment

Abstract Text (1):

A portable telecommunication test set, such as a telephone line butt set, with a web browser incorporated therein. A standard HTML (Hyper Text Mark-up Language) or WAP (Wireless Application Protocol) browser may be incorporated within the portable test set, allowing a network technician to access the Internet as well as other remotely-located sources of information to retrieve data and other useful technical information while in the field for communication network or telephone line maintenance, troubleshooting or repair. The test set may contain memory to locally store certain technical information, e.g., telephone line-specific data or circuit information, that may be retrieved and "read" by the built-in browser module when prompted by the network technician. The web browser may display the content of the requested information on a display provided on the test set. Line-specific (as well as manufacturer-specific) test information need not be in a manufacturer-dictated proprietary format, but, instead, may be in a generally available text format, e.g., the HTML format or the WML (Wireless Mark-up Language) format. Testing-related data may thus be supplied (as hardware or software plug-in modules) by a vendor other than the manufacturer of the test set.

Brief Summary Text (16):

In addition to routine telecommunication test circuits and/or circuits for telephone functionality, the test set of the present invention, e.g., a butt set, may incorporate a standard HTML (Hyper Text Mark-up Language) or WAP (Wireless Application Protocol) browser within it. The inclusion of a web browser within a telecommunication test set allows a network technician to access the Internet as well as other remotely-located sources of information to retrieve data and other useful technical information while in the field for communication network or telephone line maintenance, troubleshooting or repair. The remotely-located source of information may be a computer server or other test equipment similar to the test set according to the present invention. The portable test set, e.g., the butt set, may contain memory to locally store certain technical information, e.g., telephone line-specific data or circuit information, that may be retrieved and "read" by the built-in web browser module when prompted by the network technician.

Detailed Description Text (8):

The web browser module 28 may include software code or routines which, when executed by the PCU 46, perform web browser functions upon execution. In one embodiment, the web browser module 28 may be implemented using a combination of software and hardware elements. The web browser software may include, for example, an HTML (Hyper Text Mark-up Language) browser or a WAP (Wireless Application Protocol) browser because of the small size and portable nature of the butt set 20 as well as because of the smaller display 26 and limited memory space (in the memory unit 42) available for the butt set 20. A commercially available HTML browser, for example, the Netscape Navigator.TM. or the Microsoft Internet Explorer.TM. may be selected for the web browser module 28. In case of a WAP browser, a commercially available WAP-compliant microbrowser (or wireless web browser) used, for example, in Nokia.TM. 7100 series cell phone or in the Palm Pilot.TM. hand-held computer versions 5.0 or 6.0 may be selected. The HTML browser



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(12) **United States Patent**
Zellner et al.

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(54) **BROWSER ON TEST EQUIPMENT**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 285 days.

(21) Appl. No.: **09/586,066**

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(51) Int. Cl.⁷ **G06F 17/30**

(52) U.S. Cl. **707/10**

(58) Field of Search **707/9, 10, 102; 345/733; 370/230, 245, 249; 379/15.05, 32.01; 709/200, 224, 226, 231, 250; 714/712**

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,249,516 B1 * 6/2001 Brownrigg et al. 370/338
6,320,946 B1 * 11/2001 Enzmann et al. 379/143
6,385,301 B1 * 5/2002 Nolting et al. 379/112.01
6,397,359 B1 * 5/2002 Chandra et al. 709/224

OTHER PUBLICATIONS

Description of Harris Dracon TS22ALO Test Set, p. 1, available on Dec. 19, 1999 at http://www.wisecomponents.com/ets/showpage.cgi?template=_templates/ts22alo.html.

White Paper of Mar. 10, 1999, on "What is a Protocol Analyzer?," pp. 1-10, available on Dec. 19, 1999 at <http://www.wisecomponents.com/techlibrary/articles/protocol.html>.
Product Information for T-BERD 310 Communications Analyzer, pp. 1-3, available on Dec. 19, 1999 at http://www.ttc.com/products/html/p_list/tb310gen.html.

Description of MGTS diagnostic system, pp. 1-2, available on Dec. 17, 1999 at <http://www.tekelec.com/products/mgts/mgts.pdf>.

Product Highlights for MGTS diagnostic system, pp. 1-5, available on Dec. 17, 1999 at <http://www.tekelec.com/products/mgts/default.asp>.

Wireless Application Protocol Wireless Datagram Protocol Specification of May 14, 1999, pp. 1, 8-12, 15-32, 37, available on Dec. 17, 1999 at <http://www.wapforum.org/what/technical/SPEC-WDP-19990514.pdf>.

(List continued on next page.)

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(57) **ABSTRACT**

A portable telecommunication test set, such as a telephone line butt set, with a web browser incorporated therein. A standard HTML (Hyper Text Mark-up Language) or WAP (Wireless Application Protocol) browser may be incorporated within the portable test set, allowing a network technician to access the Internet as well as other remotely-located sources of information to retrieve data and other useful technical information while in the field for communication network or telephone line maintenance, troubleshooting or repair. The test set may contain memory to locally store certain technical information, e.g., telephone line-specific data or circuit information, that may be retrieved and "read" by the built-in browser module when prompted by the network technician. The web browser may display the content of the requested information on a display provided on the test set. Line-specific (as well as manufacturer-specific) test information need not be in a manufacturer-dictated proprietary format, but, instead, may be in a generally available text format, e.g., the HTML format or the WML (Wireless Mark-up Language) format. Testing-related data may thus be supplied (as hardware or software plug-in modules) by a vendor other than the manufacturer of the test set.

22 Claims, 5 Drawing Sheets

